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VERDIELL(10) **Pub. No.: US 2002/0034834 A1**(43) **Pub. Date: Mar. 21, 2002**(54) **OPTOELECTRONIC ASSEMBLY AND
METHOD OF MAKING THE SAME****Publication Classification**(51) **Int. Cl.⁷** H01L 21/00; H01L 21/44;
H01L 21/48(76) **Inventor: JEAN-MARC VERDIELL, PALO
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LOS ANGELES, CA 90025 (US)**(57) **ABSTRACT**

An optoelectronic assembly having an insulating substrate with a planar surface and a metal layer bonded to the planar surface such that selected regions of the substrate are exposed and a step is produced between the substrate and a top surface of the metal layer. An active optical device is mounted on the metal layer and a passive optical device is aligned with the active device using the step as a fiducial for positioning the former. The metal layer provides an electrical path to the active device. The thickness of the metal layer is selected such that the heat generated by the active device is dissipated, the substrate does not interfere with the propagation of light along the first optical axis, and such that the in-plane coefficient of thermal expansion (CTE) of the metal layer is constrained by the substrate. The optoelectronic assembly is also suitable for mounting active devices provided with submounts or without.

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